



MISSOURI CONSERVATIONIST

VOLUME 79, ISSUE 10, OCTOBER 2018
SERVING NATURE & YOU

The resurgence of the wild turkey in Missouri during the past 45 years has rekindled interest in this splendid bird. Today, Missouri turkey hunters can pursue turkeys for three weeks in the spring and one month during the fall and archers can add almost another three months during the fall archery season. To learn more about turkey hunting in Missouri visit huntfish.mdc.mo.gov/hunting-trapping/species/turkey.



DISCOVER NATURE



wild-turkey muffuletta sandwiches

Serves 4

Relish

- ¾ cup chopped red onion
- ½ cup chopped sweet red pepper
- 1 stalk celery, chopped
- ½ cup kalamata olives, pitted
- ½ cup drained small Spanish pimiento-stuffed green olives
- ¼ cup extra-virgin olive oil
- 2 tablespoons drained capers
- 2 tablespoons chopped parsley
- 12 fresh basil leaves, roughly sliced
- 1 teaspoon chopped fresh oregano
- 1 teaspoon chopped fresh chives
- 1 tablespoon red wine vinegar
- Freshly ground black pepper

Sandwich

- 1 24-inch-long French or sourdough baguette, split lengthwise
- 12 ounces cooked wild turkey breast, sliced
- 4 ounces Jarlsberg or good Swiss cheese, sliced
- Tomato slices (optional)

Combine relish ingredients in food processor and chop finely. Add pepper to taste. Transfer to bowl. Let stand 1 hour at room temperature.

Spread half of muffuletta relish over each cut side of bread. Place turkey and cheese on bottom half of bread. Top with tomato slices. Cover with top half of bread. Cut diagonally into 4 sandwiches.



Find more wild recipes in *Cooking Wild in Missouri*. Order yours at mdcnatureshop.com.



Contents

OCTOBER 2018
VOLUME 79, ISSUE 10



10

17

FEATURES

10 Bring in the Birds

Native trees and shrubs bring songbirds, butterflies, and other benefits to urban landscapes.

by Jan Wiese-Fales

17 As Wild as it Gets

Explore Missouri's original landscapes at hard-to-reach natural areas.

by David Stonner

SPECIAL INSERT

2019 Nature Shop

DEPARTMENTS

- 2 Inbox
- 3 Up Front With Sara Parker Pauley
- 4 Nature Lab
- 5 In Brief
- 28 Get Outside
- 30 Places To Go
- 32 Wild Guide
- 33 Outdoor Calendar



MISSOURI CONSERVATIONIST



ON THE COVER

Fall color in Missouri usually peaks around mid-October.

📷 NOPPADOL PAOTHONG

70-200mm lens, f/4
1/60 sec, ISO 800

GOVERNOR

Michael L. Parson

THE CONSERVATION COMMISSION

CHAIR Marilyn J. Bradford

VICE CHAIR David W. Murphy

SECRETARY Nicole E. Wood

MEMBER Don C. Bedell

DIRECTOR

Sara Parker Pauley

DEPUTY DIRECTORS

Mike Hubbard, Aaron Jeffries,
Jennifer Battson Warren

MAGAZINE STAFF

EDITOR

Angie Daly Morfeld

ASSOCIATE EDITOR

Bonnie Chasteen

STAFF WRITERS

Larry Archer, Heather Feeler,
Kristie Hilgedick, Joe Jerek

CREATIVE DIRECTOR

Stephanie Thurber

ART DIRECTOR

Cliff White

DESIGNERS

Les Fortenberry, Marci Porter

PHOTOGRAPHERS

Noppadol Paothong, David Stonner

CIRCULATION MANAGER

Laura Scheuler

mdc.mo.gov/conmag



Download this issue to your phone or tablet at mdc.mo.gov/mocon.



Inbox



Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

MISSOURI
CONSERVATIONIST
PO BOX 180
JEFFERSON CITY, MO 65102



3-TOED BOX TURTLE
I loved *The Three-Toed Box Turtle* [August, Page 10]. Very informative. I especially loved the close-up pictures of the baby turtles.

Cynthia Forck
via mail

THE THREE-TOED BOX TURTLE

Excellent article and pictures. For 30 years I have planted at least 10 tomato plants. Almost every year, I find a box turtle eating the low-growing, ripe, red tomatoes.

Frank Eshleman Wildwood

The August 2018 issue was a delight. I particularly enjoyed *The Three-Toed Box Turtle*, written by Noppadol Paothong. For years, I have been a fan of his excellent nature photographs and am glad to see his recently published articles. The article was well done, from the photos and layout to the clear writing. Jam-packed with information on natural history, this article would make a great resource for teachers of all grades. I hope to see more articles from this gifted writer. And please keep the photos coming.

John Havel Springfield

Thank you for the article on the three-toed box turtle. As a child, I was taught to love and respect the turtle. Now in my 70s, I still look forward to seeing my turtle friends come eat our scraps of watermelon, cantaloupe, strawberry stems, etc. Keep up the good work reporting on the wild animals, reptiles, etc. We also enjoy the children's magazine *[Xplor]* and share it with nursing homes and children.

June and Alvin Groshong Troy

WEIRD, WONDERFUL WALLEYE

Great article on the differences between Missouri and Great Lakes walleye [*Missouri's Weird Walleye*, August, Page 16].

Mark E. Thomas Columbia

Interesting article on walleye and their history in Missouri. I have caught several walleye while bass fishing with crankbait on the Castor River around the Sweet Gum Access near Zalma. I caught a nice, 3-pound one on a float trip with my good friend

Bob Todd, a well-respected sportsman with vast knowledge of Missouri outdoors. He was kind enough to picture me and my catch in his July 1992 edition of *The Riverhills Traveler*. Thanks for a great magazine!

Steve Ramey Cape Girardeau

I just finished reading the August issue and to my amazement learned that we have walleye in streams that I fished throughout my life. I am 70 years old and have fished each of the streams mentioned in the article for many different species of fish. The majority being trout, smallmouth, largemouth, and goggle-eye. Having never caught a walleye on any of my fishing trips, I was unaware that walleye existed in those streams. Makes me want to take up the challenge of catching one.

I am sure that this article will open the eyes of many fishermen. As usual, another great article. Keep up the good work.

Tom Diebold St. Louis

BEETLES

I was pleased to see articles in the August issue on the project to restore the American burying beetle to Missouri prairies [Nature Lab, Page 4] and on the threats to Missouri box turtles [*The Three-Toed Turtle*, Page 10]. I was also happy to see that you are partnering with the St. Louis Zoo on the beetle project. Your readers should know, in addition to this project, you are partnering with the St. Louis Zoo on its Institute for Conservation Medicine, which includes the box turtle project and its hellbender project, which successfully bred over 1,700 hellbenders that were released last year in Missouri streams. These are important components of your mission to serve nature and improve our wildlife resources. As the late Leonard Hall stated so eloquently in his book *Stars Upstream*, "the need to preserve areas that are wild and natural increases in America with each day that goes by; for it has been truly said that wilderness is a resource that can shrink but never grow." Keep up the great work.

W. Dudley McCarter Clayton

Connect With Us!



/moconservation



@moconservation



@MDC_online
@Nature_Videos

Conservation Headquarters

573-751-4115 | PO Box 180, Jefferson City, MO 65102-0180

Regional Offices

Southeast/Cape Girardeau: 573-290-5730

Central/Columbia: 573-815-7900

Kansas City: 816-622-0900

Northeast/Kirksville: 660-785-2420

Southwest/Springfield: 417-895-6880

Northwest/St. Joseph: 816-271-3100

St. Louis: 636-441-4554

Ozark/West Plains: 417-256-7161

Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/commissioners.



Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at
[flickr.com/groups/mdcreaderphotos-2018/](https://www.flickr.com/groups/mdcreaderphotos-2018/),
email Readerphoto@mdc.mo.gov,
or include the hashtag #mdcdiscovernature
on your Instagram photos.



1

1 | River sandbar
campfire by
abrahamvg,
via Instagram

2 | Warren
County scenery
by **Terri Kraham**,
via email

3 | Five-lined
skink by **Clay
Guthrie**, via Flickr



2



3

MISSOURI CONSERVATION COMMISSIONERS



Don
Bedell



Marilynn
Bradford



David
Murphy



Nicole
Wood



Up Front

with Sara Parker Pauley

✱ In our work of conserving natural resources, the weight of our challenges can sometimes seem greater than our ability to meet them. From Chronic Wasting Disease in deer to the loss of critical habitat, the skies can seem dark with no light filtering through. It lifted my spirits recently when reading a book called *Switch*, which is all about how to thrive through significant challenge and change. The authors shared inspiring stories of how people solved challenges by focusing on where things are working — the “bright spots” — and how to replicate successes rather than spending time focused on problems.

Jan Wiese-Fales’s article on Page 10 highlights bright spots in our efforts to bring back songbirds and butterflies by planting native shrubs and trees, which in turn brings back the insects the birds depend on. There are so many examples of Missouri communities and landowners doing their part on this front. I thought of the 12-by-10 pollinator garden we planted this spring and the monarchs now using it. Such a small step for the future of monarchs, but perhaps a bright spot as they prepare for their long flight to Mexico.

Next year, we’ll expand our pollinator garden. My guess is the monarchs and other pollinators will respond. I know there are bright spots everywhere throughout our wonderfully conservation-minded state. Those of you who are doing your part, whatever you can and wherever you are, keep up the good work. You’re a bright spot, too — filtering through stormy skies and casting a lasting and meaningful light on conservation in Missouri.

Sara Parker Pauley

SARA PARKER PAULEY, DIRECTOR
SARA.PAULEY@MDC.MO.GOV

The *Missouri Conservationist* (ISSN 0026-6515) is the official monthly publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) **SUBSCRIPTIONS:** Visit mdc.mo.gov/conmag, or call 573-522-4115, ext. 3856 or 3249. Free to adult Missouri residents (one per household); out of state \$7 per year; out of country \$10 per year. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **POSTMASTER:** Send correspondence to Circulation, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-522-4115, ext. 3856 or 3249. Copyright © 2018 by the Conservation Commission of the State of Missouri.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, religion, national origin, sex, ancestry, age, sexual orientation, veteran status, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C Street, NW, Washington, D.C. 20240.

Printed with soy ink



Nature LAB

by Bonnie Chasteen

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

WILDLIFE MANAGEMENT

Black Bear Monitoring

✳ When does a female bear with cubs leave her den? And where are bears with cubs appearing in Missouri? MDC researchers and landowners are using trail cameras to help answer these questions as our state's black bear population grows.

"We place trail cams outside traps and dens to see who's coming to them," said MDC Furbearer Biologist Laura Conlee. "Cameras at dens can give us exit dates and allow us to access reproductive information for collared females when we can't access a sow in the den. The cameras let us know how many cubs or yearlings she had that winter."

Conlee heads up the Missouri Black Bear Project, a research effort begun in 2010. "Based on a 2012 population estimate, there are around 350 bears in the state, but we know that population is growing and expanding," Conlee said. Reproductive and survival data collected over the last several years will inform a population model, which will be used to predict the growth and trajectory of Missouri's black bear population.



Trail cameras help researchers and citizens track bear population and range

"This information will allow us to determine when our bear population exceeds 500 bears, a benchmark for initiation of a hunting season," Conlee said.

Citizens can contribute to the Missouri Black Bear Project in an informal way by submitting bear sightings.

"We get quite a few trail cam photos from the public," Conlee said. "This helps us monitor our black bear range in general and gives us a detailed look at where we have females with cubs occurring within the state."

Black Bear Monitoring at a Glance

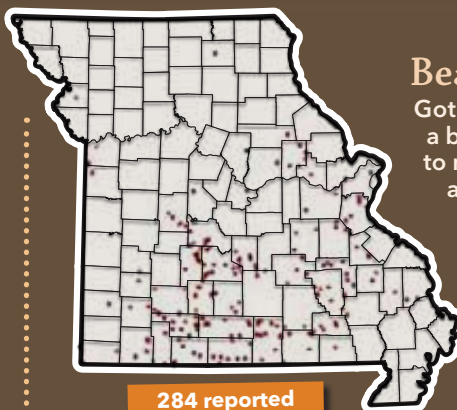


32

Number of female bears with GPS or satellite collars. Staff check dens during winter to assess females' condition and determine presence/absence of cubs.

19

Number of dens monitored with trail cameras in 2018



284 reported sightings in 2017

Report a Bear Sighting

Got a good photo of a bear or a sighting to report? Submit it at mdc.mo.gov/ReportBears.

Follow the Missouri Black Bear Project at research.mdc.mo.gov

In Brief

News and updates from MDC



Whatever you drive or ride, make sure your vehicle can handle rough roads.

DISCOVER NATURE AT POOSEY FALL DRIVING TOUR OCT. 21

SEE THE NATURAL WONDERS OF A MISSOURI FALL DAY

➔ Take a fall staycation and discover nature at the 32nd annual Poosey Conservation Area Fall Tour, northwest of Chillicothe in Livingston County, on Oct. 21, Sunday, from noon–4 p.m.

The driving tour follows roads not normally open to the public through rugged hills and a historical site once known as the Poosey community. Talk with staff at education stations along the way about forest and grassland management, wildlife habitat, and tips for improving fishing in ponds and lakes. You can also fish, kayak, hike, watch birds and other wildlife, or even scout hunting sites.

The driving tour begins at Pike's Lake off Route W and County Road 502. Gates open at noon, and the last vehicle will be allowed in at 4 p.m. Gravel roads are graded, but the route involves steep slopes and crossings in low areas. High-clearance vehicles are recommended.

For more information, contact MDC Resource Forester Samantha Anderson at 660-646-6122 or visit short.mdc.mo.gov/ZSS.

SHARE THE HARVEST THIS HUNTING SEASON

If you've got permits to take more deer than you can use this hunting season, consider donating your extra venison to Missouri's Share the Harvest program. Last deer season, thousands of Missouri deer hunters donated 289,292 pounds of venison, including nearly 5,600 whole deer. Since MDC and the Conservation Federation of Missouri (CFM) started the program in 1992, Share the Harvest has provided nearly 4 million pounds of lean, healthy venison to help feed hungry Missourians.

How it Works

Deer hunters donate their extra venison — from several pounds to a whole deer — to participating meat processors throughout the state who grind and package the deer meat. The packaged venison is then given to local food banks and food pantries for distribution to Missourians in need of food assistance. To get Share the Harvest venison, contact local food banks or food pantries.

Processing fees are covered entirely or in part by numerous local sponsors, along with statewide sponsors, including MDC, CFM, Shelter Insurance, Bass Pro Shops, Missouri Chapter Whitetails Unlimited, Missouri Chapter Safari Club International, Missouri Chapter National Wild Turkey Federation, Drury Hotels, Midway USA Inc., Missouri Deer Hunters Association, and Missouri Food Banks Association.

For more information, visit short.mdc.mo.gov/Zoz, see the *2018 Fall Deer & Turkey Hunting Regulations and Information* booklet, or call 573-751-4115.

What if My Deer Comes From a CWD-Positive County?

Deer taken in counties where CWD has been detected can be donated only through processors participating in the Share the Harvest CWD Testing Program and located in or near any of the 11 CWD-positive counties. You can have your deer sampled for CWD before donating them. Just present the CWD barcode number provided at the sampling location to the participating processor as proof of sampling. You may also present your unsampled deer for donation to approved processors in or near any of the 11 counties, and the processor will collect a tissue sample or the head for testing.

Those 11 counties include: **Adair, Cedar, Cole, Franklin, Jefferson, Linn, Macon, Perry, Polk, St. Clair, and Ste. Genevieve.** For more information on donating a deer in a CWD-positive county, visit mdc.mo.gov/CWD.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov
or call 573-522-4115, ext. 3848.

Q. Are air bows legal to hunt deer in Missouri?

➔ Yes, but they are not considered archery equipment. They are defined as a firearm by the *Wildlife Code of Missouri* because the device propels a single projectile at one discharge. Even though they are smaller than 0.40 caliber — the minimum requirement for an air-powered gun — they are legal for firearms and alternative methods deer hunting.

Q. I recently noticed these webs all over the yard, especially after a foggy morning. What creature creates this work of art?

➔ Sparkling with morning dew, the unique web of the funnel weaver spider is often more noticeable than the spider itself.

Typically, these webs are horizontal sheets with funnels leading down to a shelter, such as a rock crevice or denser vegetation. The sheet can be up to 3 feet wide and the funnel can be more than 1 foot long, although they are often smaller than that.

Often, these spiders can be seen crouched in the funnel's center as they wait to capture their unfortunate prey. Beetles, moths, small butterflies, and daddy longlegs are frequent food items.

Sometimes funnel weaver



Funnel weaver web

webs are found attached to houses, especially in corners near a porch light. Funnel weaver spiders are harmless to humans and provide truly organic insect control.

Q: I found these ringed salamanders at Rockwoods Reservation. I see them listed as a species of conservation concern. Is this still true?

➔ Ringed salamanders are considered vulnerable in Missouri, due to their relatively low numbers, restricted range, and the threat of collection for the pet trade.

Found mostly in the southwestern and central Missouri Ozarks, this salamander's range also extends into the Ouachita Mountains and Ozark Highlands of Arkansas and Oklahoma.



Ringed salamanders

"They have a limited distribution in North America," said Missouri State Herpetologist Jeff Briggler. "Close to 60 percent of this species' entire range occurs in Missouri, which means we have a special responsibility to ensure their survival."

He noted they can be quite abundant in some locations, but sparse in others, even when habitat appears to be acceptable. They usually hide under logs and

rocks or in burrows made by small mammals, seldom venturing into the open and preferring heavily wooded areas. As temperatures cool in autumn and rain is more common, they travel by night to fishless woodland ponds, where they may congregate by the hundreds for breeding.

"People don't see them because they are mostly active on rainy nights," Briggler added.

AGENT ADVICE

from

Brian Shelton

PEMISCOT COUNTY
CONSERVATION AGENT

If the cool, crisp autumn mornings are making you eager to get out in the woods in search of a flock of turkeys, you're not alone. Before you head out to pursue the state's most popular game bird, make sure you're prepared. Fall turkey season includes two methods — firearms and archery — and each requires a separate permit. Purchase the permit you need at **mdc.mo.gov/permits**.

With hunters afield using two different methods, safety is key. Wear blaze orange and stay visible when moving about. Always positively identify your target and what's just beyond it before shooting. You can legally

harvest two birds, male or female, on the same day. Now, grab your call and get out there!



What IS it?

Can you guess this month's natural wonder?

The answer is on
Page 9.



INVASIVE SPECIES

BUSH HONEYSUCKLE

Invasive nonnative plants consume wildlife habitat and pasturelands, and compete with crops. Do what you can to control invasive species when you landscape, farm, hunt, fish, camp, or explore nature.

What Is It?

Introduced in the mid to late 1800s for landscape ornamentals, wildlife food and cover, and erosion control, bush honeysuckles are native to eastern Asia. Depending on the variety, bush honeysuckle can grow from 6 to 20 feet tall. Leaves are green with a pale green, fuzzy underside. Twigs of all bush honeysuckles are thornless and hollow. In the spring, fragrant white or pink flowers appear, but become yellowish as they age. The shrub's red berries mature in pairs near the origin of the leaves in September to October. Each berry contains seeds that are distributed by foraging birds and small mammals.

Where Is It?

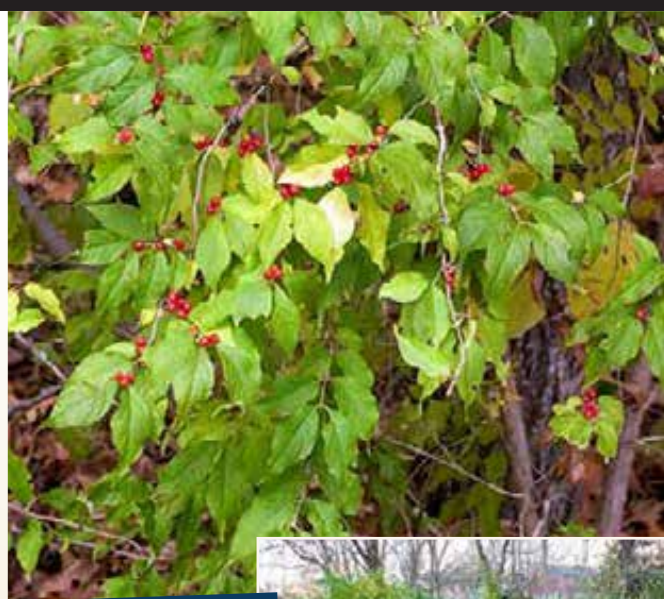
Morrow's and Amur are the two species of bush honeysuckles that are the most invasive in Missouri. You can find them statewide, with especially high densities in urban areas. They can survive in shaded forest understory, and some varieties can tolerate wet soils and moisture, including bogs, fens, lakeshores, and riparian areas. Thriving on neglect, they are also found along fencerows, thickets, woodlands, roadsides, pastures, old fields, and unattended areas.

Why It's Bad

"Bush honeysuckles are born competitors, and native species pay the price," said Nate Muenks, habitat management coordinator. "Leaves appear early in the spring and remain late into fall, giving them an advantage over native plants. They form a thick understory that limits sunlight to native plants, inhibiting seedling establishment and forest regeneration. They also compete for soil moisture, nutrients, and may produce a chemical that inhibits native plant growth. Bush honeysuckle competes with native plants for pollinators, which could result in fewer seeds set on native species. Bush honeysuckles produce numerous berries, but unlike native shrubs, the fruits of nonnative bush honeysuckles are carbohydrate-rich and do not provide migrating birds with the high-fat content needed for long flights."

How to Control It

October and November are excellent months to identify and remove bush honeysuckle because most natives are dormant. When the plant is small and the soil is moist, hand pulling is an option if the entire plant can be removed. The cut-stump method involves cutting the bush off at the stump and applying a herbicide solution to thoroughly cover the freshly cut area. Spray the leaves in early spring or late fall with a herbicide solution before or after the leaves of native plants are present. The basal-bark method consists of spraying a herbicide mixture to the bush's stems to a height of 12 to 15 inches from the ground. As always, read and follow the label



Bush honeysuckles are one of the first plants to leaf out in the spring and one of the last to drop their leaves in the fall, giving them the upper hand over native species.



If controlling bush honeysuckle with the cut-stump method, be sure to treat the stump with a recommended herbicide immediately after cutting it or the stump will resprout vigorously.

instructions carefully when using herbicides. Finally, fire assists in the control of honeysuckle if there is enough fuel and the area can be burned safely. Burn every spring or every other spring for several years to control resprouting.

Alternative Native Plants

Deciduous holly, crabapple, plums, shrub dogwoods, downy serviceberry



For more information, visit short.mdc.mo.gov/ZcX

MAIN: JIM RATHER; INSET: CLIFF WHITE

CLIFF WHITE



SPRINGFIELD NATURE CENTER CELEBRATES 30 YEARS

Since it opened in 1988, Springfield Conservation Nature Center has welcomed almost 2.8 million visitors, and more than 6 million have discovered nature through a variety of natural habitats on the nearly 3 miles of trails. The nature center will mark this 30-year milestone with special events during the first weekend in October:

Friday, Oct. 5: Join us for an open house from 5–9 p.m. Musician and primitive skills specialist Bo Brown will weave together a program featuring music, stories, images, and musings about birds, nature, and other outdoor pursuits from 7–9 p.m. during Nature and the Arts: Songs and Birds.

Saturday, Oct. 6: Enjoy naturalist-guided hikes at 9 a.m. and 1 p.m. Have an interest in photography? Register for Volunteer Naturalist Dan Liles' Nature Photography Basics program from 9 a.m.–noon.

Sunday, Oct. 7: Wrap up the weekend at Primitive Skills Day from 1–5 p.m. with demonstrations on flint knapping, bow-and-arrow construction, fire making, and cordage wrapping using plant fibers and beadwork.

The Springfield Nature Center is at 4601 S. Nature Center Way. Call 417-888-4237 for more information.



AGENTS GO LIVE ON FACEBOOK

Join us for Ask an Agent on Facebook Live Oct. 31 from noon to 12:30 p.m. Conservation agents will answer questions about a variety of topics, including hunting, fishing, trapping, and other regulations.

Visit facebook.com/moconservation at the time of the session. Post your questions in the comments section.

GOT AN EVERGREEN? IT COULD BE THE GOVERNOR'S NEXT CHRISTMAS TREE

The annual search is underway for a large evergreen to adorn the governor's mansion lawn in Jefferson City for the Christmas season. The donated tree must be about 40 feet tall and either an eastern red cedar, Norway spruce, or white pine that is fully branched on all four sides and accessible by large equipment.

The right tree may be near the end of its life, or it may need to be removed for other reasons. Once a tree is selected, MDC staff will coordinate cutting and delivery to the governor's mansion at no cost. The donor will receive a thank-you from the governor and an invitation to the lighting ceremony, which usually occurs the first week of December.

Take photos of candidate trees and email them with contact information to holidaytrees@mdc.mo.gov. Be sure to include a telephone number, location of the tree, and several pictures taken from different angles and distances. Nominations can also be submitted by mail to: Missouri Department of Conservation, ATTN: Mansion Christmas Tree, PO Box 180, Jefferson City, MO 65102. **All entries must be submitted by Oct. 10.**

WHAT IS IT?

BLACK VULTURE

With their large black bodies and naked black heads, black vultures (*Coragyps atratus*) are easy to spot on the side of the road, feasting on roadkill. These birds can live for 25 years and prefer to stay in tight-knit family groups. They are found statewide, but most often in the extreme southern parts of the state. Black vultures are listed as a species of conservation concern and are protected by the Migratory Bird Treaty Act.



Bring in the Birds

NATIVE TREES AND SHRUBS BRING
SONGBIRDS, BUTTERFLIES, AND OTHER
BENEFITS TO URBAN LANDSCAPES

by Jan Wiese-Fales

Rough-leaved dogwood

Supports gossamer-wing butterflies and other pollinators.



Prairie rose

Attracts sphinx moths and other pollinators.



Pin oak

Oaks support more kinds of butterflies than any other family of trees.



Oakleaf hydrangea

Supports native flies and wasps.



Ever hear a warbler's song

and think, "What kind of plant is that?" According to biodiversity expert, Doug Tallamy, you should. In his 2007 book, *Bringing Nature Home*, Tallamy traces the return of springtime songbirds to the native trees that support the caterpillars they feed their babies. In fact, it takes 6,000 to 9,000 caterpillars to raise a nest of baby chickadees. Because of this vital tree-insect-songbird connection, simply planting and maintaining native trees can turn your yard or urban green space into a powerful force for conservation.

But how do homeowners and towns go about adding more native trees and shrubs to urban landscapes? MDC provides advice, resources, and support to help everyone take advantage of all that native trees and shrubs have to offer.

Teaching Residents About Trees

"I feel that my major job is to provide better habitat for humanity by using trees as a tool," said Chuck Conner, MDC community forester in the Kansas City Region. "We've come to believe that we can live exclusively apart from nature, but the greener our environment, the better off we are socially, economically, and environmentally."

As a **community forester**, one of Conner's priorities is working with groups and organizations that receive funding from MDC to help improve their natural resources. Kansas City's Heartland Tree Alliance (HTA), a program of that city's nonprofit Bridging The Gap organization, is one of the entities he works with.

"We used a grant for an educational Treekeepers program to teach residents about trees," said Sarah Crowder, a certified arborist who serves as HTA's program manager.

As part of the program, participants devote 18 hours to learn about soils, tree planting, and pruning, and then serve as HTA volunteers for the organization's considerable public education efforts.

HTA also has used MDC funding to install a native plant arboretum along the Blue River that includes educational signage as well as tree planting and pruning workdays. Participants gain on-the-job training in proper planting, mulching, and pruning techniques.

"MDC has been a good partner," Crowder said.

Help for the St. Louis and Southwest regions

Erin Shank, an MDC urban wildlife biologist in the St. Louis Region, builds partnerships with parks, schools, neighborhood organizations, and other nonprofit organizations to improve urban habitat.

"We promote common objectives like removing nonnative and invasive species like winter creeper,



Black-capped chickadee

garlic mustard, and bush honeysuckle, and replacing them with natives," said Shank. "We encourage staff training of partner agencies and volunteerism in communities. It's not enough to know and care. You've got to do something about it."

One tool that she and her counterparts in the state's southwest region can use in their communities is MDC's Community Conservation Grant (CCG).

"We have worked with the local chapter of the Audubon Society on a project with St. Louis County parks to convert turf into pollinator habitat, and in a St. Louis City park, to convert turf to native prairie species," she said.

Shank said a CCG project at St. Louis' Bellefontaine Cemetery — which holds arboretum status and employs three full-time horticulturalists — has been particularly successful. Founded as a small, rural cemetery in 1849, the city has grown up around it.

"The work they've done increased their bird count from 117 species in 2014 to 134 species in 2015," Shank said.

Kyle Cheesborough, Bellefontaine's horticulture supervisor, said the fact the cemetery is located in a



Call Your Community Forester

Community foresters help local communities and residents care for their trees and forests. Find your regional office phone number on Page 2.



Left: It takes 6,000-9,000 caterpillars to raise a nest of baby chickadees, according to *Bringing Nature Home* by Doug Tallamy.

Below: Bellefontaine Cemetery in St. Louis features native shrubs and trees that provide cover for songbirds.



“We’re not purists, but we try for at least 70 percent native plants in every design,” he said, adding that there are plenty of attractive Missouri native plants to work with.

major migratory pathway jumped out at him when he began working there.

“Instead of planting begonias every year, we added shrub masses along with prairielike areas to produce both thickets and grassy meadows for cover and nesting,” he said.

“In addition to that, we recognized a problem for waterfowl with hardscape walls all around the ponds. There was nowhere for chicks to get in and out of the water.”

Water lilies, planting shelves, and appropriate pond edge plantings were introduced.

“We added four species of waterfowl to the count in one season. It was amazing. The birds felt safe nesting in the cover of the grasses,” he said.

In addition, native shrubs have been planted in masses to provide attractive screening as well as cover for smaller songbirds and berry meals for birds and other small animals.

Cheesborough, who has worked at Bellefontaine for four years, said he and other staff members pair diversity with aesthetics in their designs and plantings.

TRIM for Healthy Community Trees

Another way MDC helps local communities choose and care for their trees is through the Tree Resource Improvement and Maintenance (TRIM) grant.

MDC Community Forester Ann Koenig works in Columbia. She said TRIM grants cover the cost of having a certified third-party arborist map a project area, noting every tree species’ size, condition, and immediate needs before making any recommendations about what to plant.

“In some cases, a city has a large number of a single species, and we recommend they plant something else,” she said. “A diversity of species helps an urban forest resist disease, and a diverse forest supports more kinds of wildlife.”

Koenig is particularly concerned about communities with a large percentage of ash trees. “With the emerald ash borer (EAB) in the state, the workload for them will be devastating,” she said.

TRIM funds are available statewide, and they can help communities determine how best to cope with EAB. “Some ash trees can be saved with treatments, but others will have to be removed and replaced,” Koenig said. “TRIM funds can help with removal and replacement as well as training for staff so communities can better maintain their urban forests.”



TRIM for Community Tree Care

Get up to \$10,000 for help with managing, improving, or conserving your community’s trees.

Applications are due the first Friday in June every year.

Learn more at **mdc.mo.gov/TRIM**.



Above: Author Doug Tallamy calls Callery pears “biological pollution.” They spread everywhere and ruin wildlife habitat.

Below: Native flowering dogwood is a good alternative to invasive Callery pear.



CALLERY PEAR: NOPADOL PAOTHONG; FLOWERING DOGWOOD: JIM RAHERT



Trees and Plants

Learn about invasive tree pests, find guidance about tree planting and care, and learn more about how trees work for wildlife and people at mdc.mo.gov/trees-plants.

All That Blooms is not Beneficial

“Native species have evolved together over thousands of years, forming mutual relationships,” said Jennifer Behnken, a community forester in MDC’s Southeast Region. “I try to recommend native trees as often as possible,” she said.

When making choices about what to plant, Behnken said that it also is important to **avoid the pitfalls** of introducing nonnative species that are now considered invasive in Missouri landscapes — Callery pear, Russian olive, autumn olive, golden rain tree, tree-of-heaven, and mimosa trees.

Behnken explained why Callery pear, in particular, became such a problem. “At first, there were so few of them that they didn’t produce fruits, so they didn’t spread.”

Callery pear, also known as Bradford pear, tends to break apart in wind or ice storms, and Koenig is quick to offer good native alternatives. “Serviceberries and flowering dogwoods have pretty white flowers,” she said. “They’re small to medium-sized trees that produce colorful fruit that is good for birds.”

Wildlife-Friendly Trees and Shrubs

Small trees

These are good native alternatives to invasive **Callery pear**.



Downy hawthorn

With a 20- to 30-foot height and a 15- to 30-foot spread, it supports 150 butterfly and moth species.



Downy serviceberry

With a 15- to 30-foot height and 10- to 20-foot spread, it supports 119 butterfly and moth species.



Flowering dogwood

With a 15- to 20-foot height and 10- to 30-foot spread, it supports 115 butterfly and moth species.

Large trees

If your **ash trees** are declining, replace them with these hardy alternatives.



Shagbark hickory

With a 70-foot height and 45-foot spread, it supports 200 butterfly and moth species.



Tulip poplar

With a 70- to 90-foot height and 35- to 50-foot spread, it supports 368 butterfly and moth species.



White oak

With a height and spread of up to 50 feet, it supports more than 410 butterfly and moth species.



Shrubs

Use these native shrubs instead of invasive **bush honeysuckles**.



American hazelnut

With a 10-foot height and 8-foot spread, it supports 31 butterfly and moth species.



Arrowwood viburnum

With a 10-foot height and spread, it supports 104 butterfly and moth species.



Ninebark

With a 5- to 8-foot height and 4- to 6-foot spread, it supports 40 butterfly and moth species.



Songbird Gallery

What's your favorite songbird? These birds need caterpillars and other insects to rear their young. Missouri native trees and shrubs provide the best host and food plants for the Show-Me State's native moths, butterflies, and other land invertebrates.



Acadian flycatcher



Baltimore oriole



Bell's vireo



Black-capped chickadee



Eastern bluebird



Painted bunting



Summer tanager

CHICKADEE, BLUEBIRD, BUNTING, TANAGER: NOPPADOL PAOTHONG
FLYCATCHER, ORIOLE, VIREO: JIM RATHER

Gather Resources and Make a Plan

MDC staff recommends going into any native landscape or urban forestry project with the right mindset: gather your resources, make a plan, do the work, and be patient. See the sidebars throughout this story for resources to help you begin thinking about adding native trees or improving your care for them.

In many cases, you will need to remove invasive trees, shrubs, and vines before replanting with natives. Before removal, make a plan for replacements. "If you remove honeysuckle," Shank said, "what will immediately move in are the most aggressive plants." She recommends promptly planting the cleared area with inexpensive annual native grasses that will re-seed and spread. "I use Virginia wild rye, Canada wild rye, river oats, and switchgrass, about 3–4 pounds to the acre."

Consider adding shrubs, which make good habitat corridors along property and fence lines. Kyle Cheesborough recommends native shrubs with all-season beauty. "Black chokeberry is great planted in masses,"

he said. "Coralberry and nannyberry provide berries, as does arrowwood viburnum, which also makes a nice specimen planting."

Where you can, choose trees that support the native food chain. According to Tallamy, the white oak supports 410 kinds of butterfly and moth caterpillars that feed 17 species of native birds, and the black cherry supports 239 caterpillar species and 14 bird species.

Using **native trees** in residential landscapes can be as easy as planting a single oak tree to serve songbirds in the spring or as challenging and rewarding as becoming a treekeeper or encouraging your civic leaders to pursue TRIM funding to maintain your town's community forest. Choose your level of commitment, explore your MDC resources, and dig in! ▲

Jan Wiese-Fales is a freelance writer who gardens in Howard County and enjoys camping, hiking, floating, and photographing Missouri's spectacular wild outdoors.



Grow Native!

Find easy native landscape plans, browse native alternatives to nonnative landscape plants, and find local native plant vendors at **GrowNative.org**.

A full-page photograph of a dense, sun-dappled forest. In the lower right, a person is seen hiking on a trail. The background is filled with tall trees and thick foliage.

As Wild as it Gets

EXPLORE MISSOURI'S ORIGINAL LANDSCAPES
AT HARD-TO-REACH NATURAL AREAS

by David Stonner

Exploring the 150-foot deep sinkhole
formation known as Devil's Den at
Sunklands Natural Area in Shannon County.

Missourians are privileged to have a large number of public areas in which to relax and enjoy nature. Designated natural areas are of particular importance and value to us because they showcase some of the best examples of our state's original landscape. You can visit these places and see rare plants, animals, and geological features that appear as they did in presettlement days. Native tallgrass prairie ripples across the loess hills of northwest Missouri and caves, springs, and sinkholes harbor natural treasures in the Ozarks. Wetlands and deep rich woodlands dot the central part of the state, and a mosaic of rare plants and animals spreads across the landscape. Natural areas represent the very best of the natural world our great state has to offer. The designation and protection afforded to natural areas, whether on a conservation area, state park, or foundation trust, preserves something of great scientific and educational value for us and future generations.

This selection of photos represents some natural areas that are particularly hard to reach. Perhaps these are areas you have not yet visited or even heard of. They can take a bit of planning to get to, and they don't get a lot of coverage or visitors. These are not necessarily the most beautiful spots in the state in terms of grand vistas, but be assured that they all have something to offer if you are willing to take on the challenges of getting to them.

Some areas, like Westport Island, Horton Bottoms, and Dripping Spring, are accessible only by boat, and then only at certain times of the year due to river levels and spring flooding. Brickyard Hill and Star School Prairie are located right next to a major interstate but involve driving over 100 miles north of Kansas City to the edge of the state. And then you have to hike for a few miles through deep woods or steep hills to get to the good stuff. Pelican Island Natural Area is so close to St. Louis' Lambert Airport that taking aerial photos is a challenge due to airspace restrictions. If you want to reach it, you have to be willing to paddle across a swift chute of the Missouri River. If you have ever visited the MDC boat ramp at Sioux



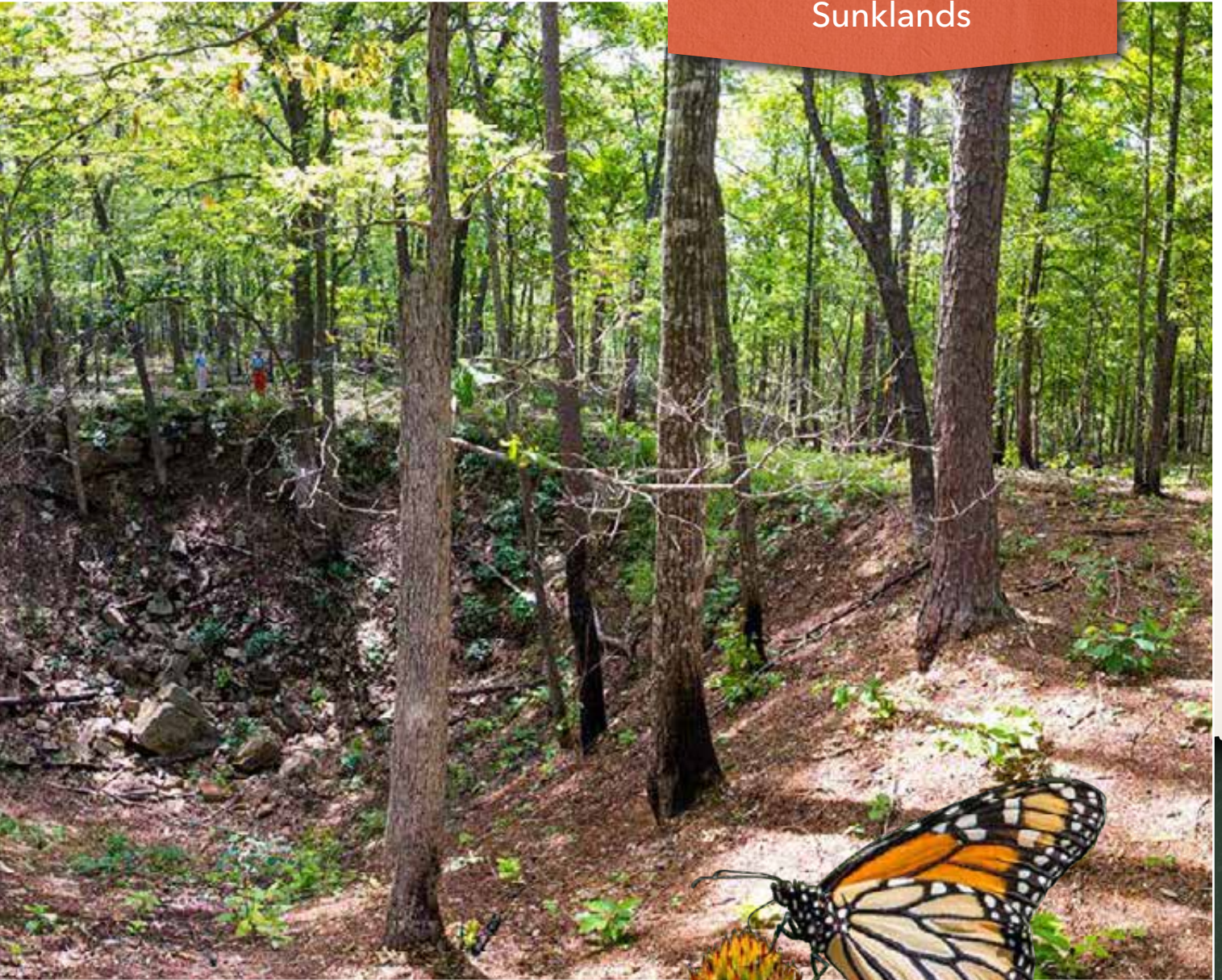
Passage Park, you were staring at Pelican Island and may not have even known it was hiding in plain sight.

Some natural areas allow hunting (check the area regulations), so be aware of that if you are out in the wilds during turkey or deer season. Most of these places have no maintained hiking trails and only a cursory map and vague area description, so you will find yourself with a lot of bushwhacking and dead reckoning to do. The 6,000-acre Sunklands Natural Area (within the 40,000-acre Sunklands Conservation Area) is a particular challenge in this

regard. I recommend that you access it with a four-wheel drive vehicle via the old logging roads. Or be prepared to park when your car has had enough abuse, and then hike for several miles.

Throw a kayak or canoe on top of the car. Grab your daypack and some water, print out a topographic map, charge the GPS, and lace up your hiking boots. Oh, and don't forget the bug spray — lots of it. Two things are certain: You will find solitude in these places and experience nature on a different scale, large and small. This is as wild as it gets in the state of Missouri. ▲

Sunklands



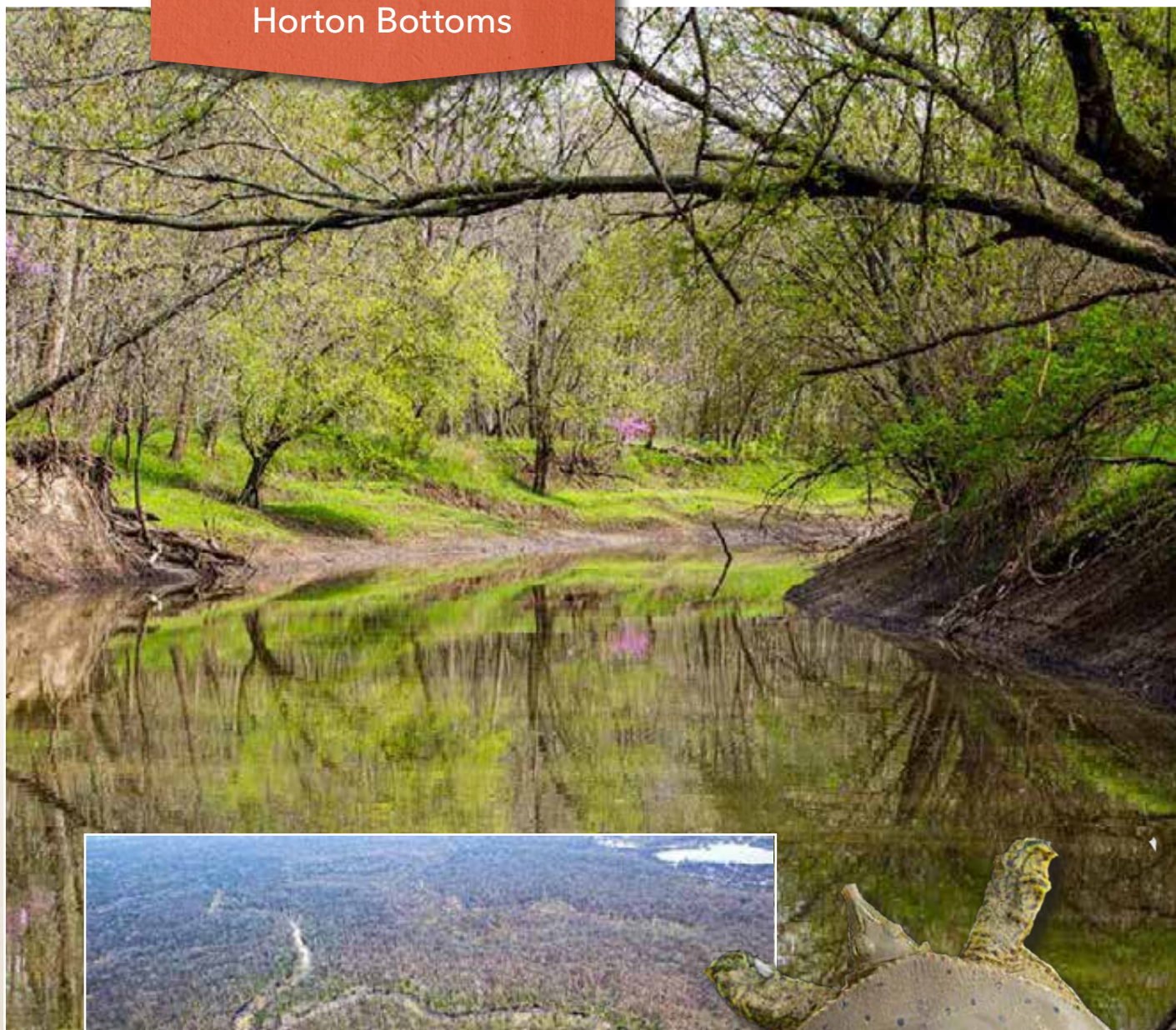
Sinkholes like this one at Sunklands Conservation Area are formed from collapsed caves that leave a depression in the ground. One sinkhole on the area is a mile long, 200 feet deep, and 600 feet across. There are many wildflower-covered glades and wetland bogs like Yuccapin Basin to explore on the area as well.



Monarch butterfly

Natural areas represent the very best of the natural world our great state has to offer.

Horton Bottoms



Spiny softshell turtle

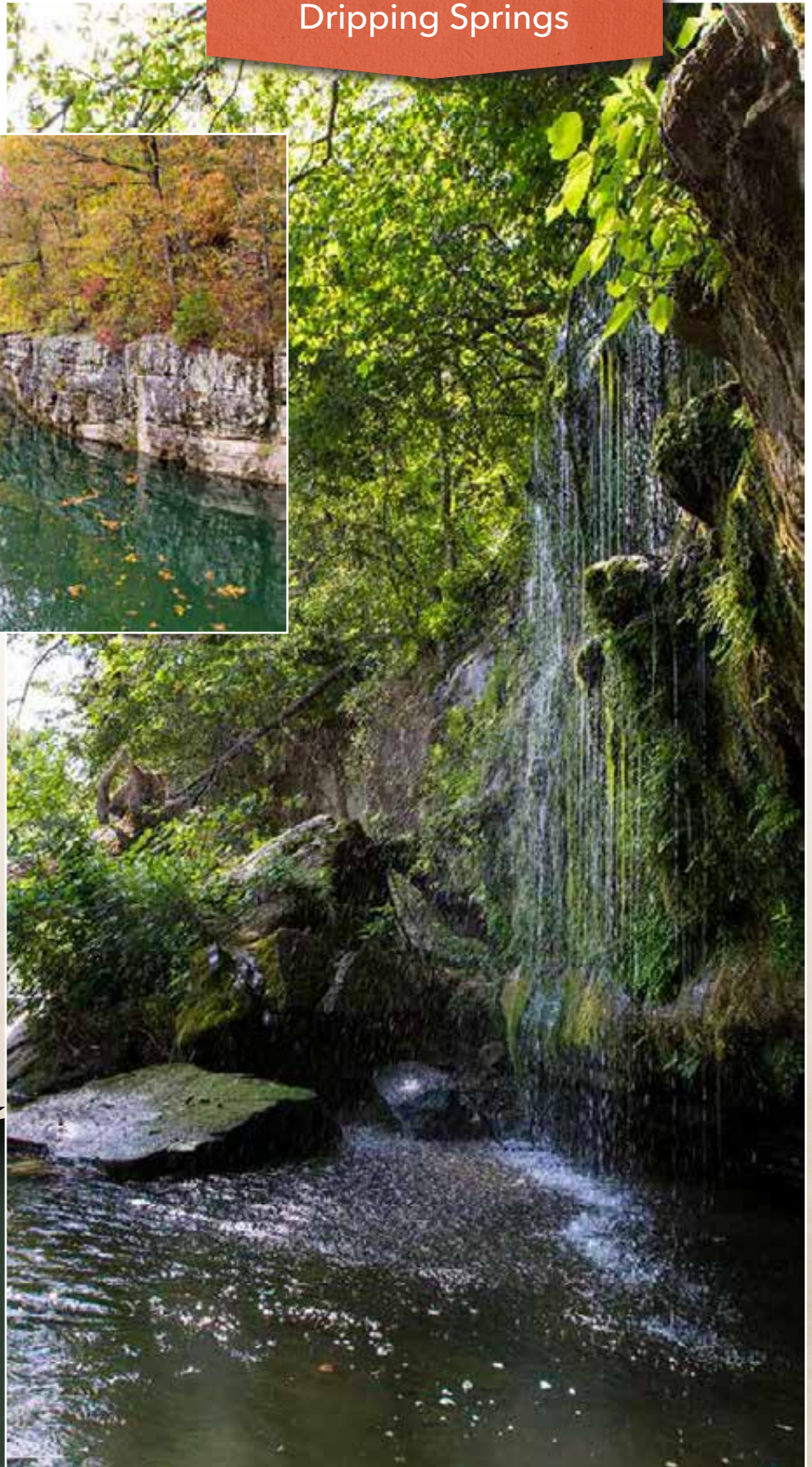
Horton Bottoms is beautiful, but remote. You can get there by motorized johnboat from the Marmaton River at Four Rivers Conservation Area. Or you can get there by canoe using the Cephas Ford Access on the Marmaton River. Once you arrive, it is worth the effort. The bottomland woodlands are lush and thick and have openings of wet prairies of cordgrass and marshes of river bulrush. Wildlife abound on the natural area with hunting and fishing permitted. No mapped trails, though. This is map-and-compass territory.

Dripping Springs

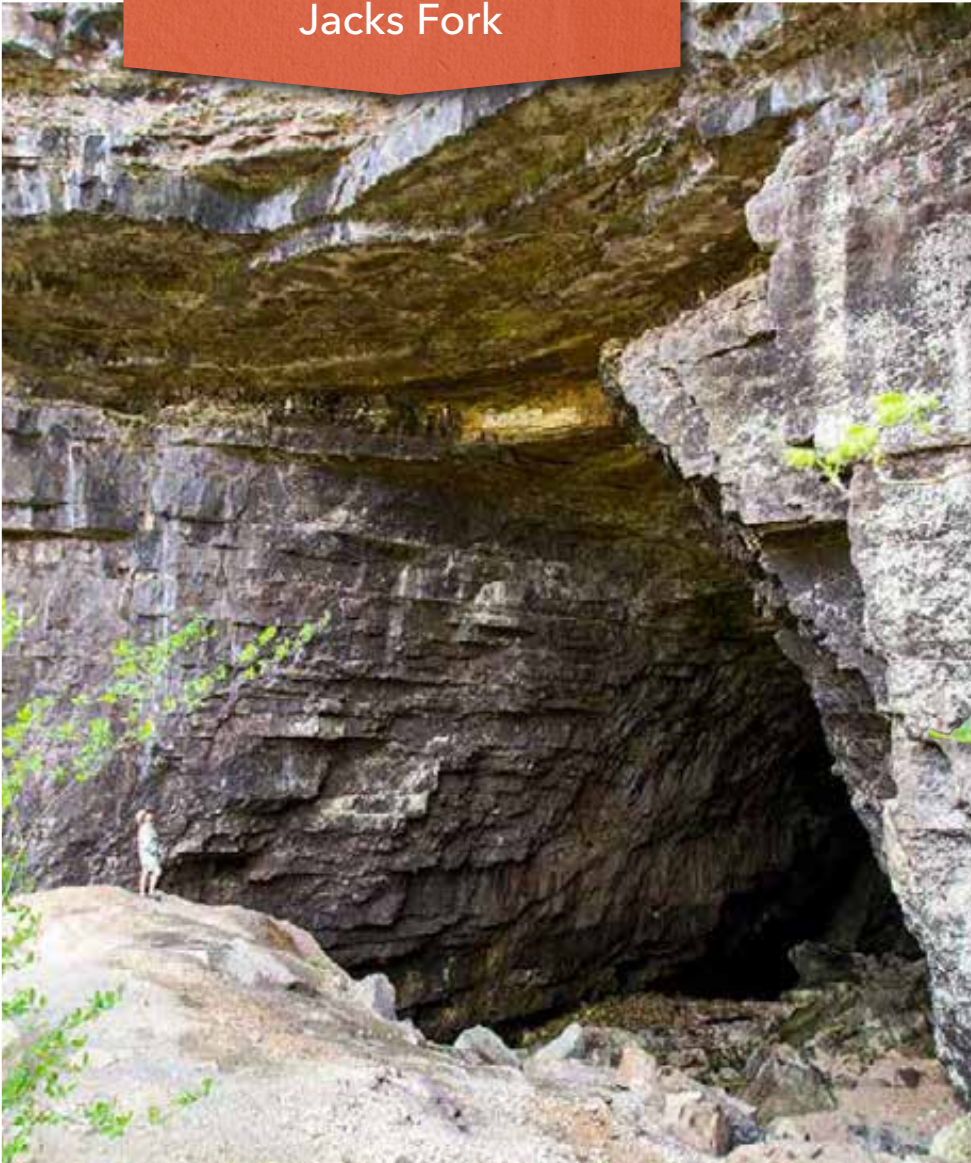


The fabulous bluff views along the Big Piney River at MDC's Baptist Camp Access are only the start of the journey to Dripping Springs Natural Area. Put in your canoe or kayak and float downstream 1.5 miles to the natural area where you can enjoy cold spring water cascading down the sandstone bluff. Bring a fishing rod to angle for smallmouth and goggle-eye and spot some bluesripe darters and Missouri saddled darters. Finish the day with another 6.5 miles of paddling to Dog Bluff Access.

Some areas, like Horton Bottoms and Dripping Springs, are accessible only by boat.



Jacks Fork



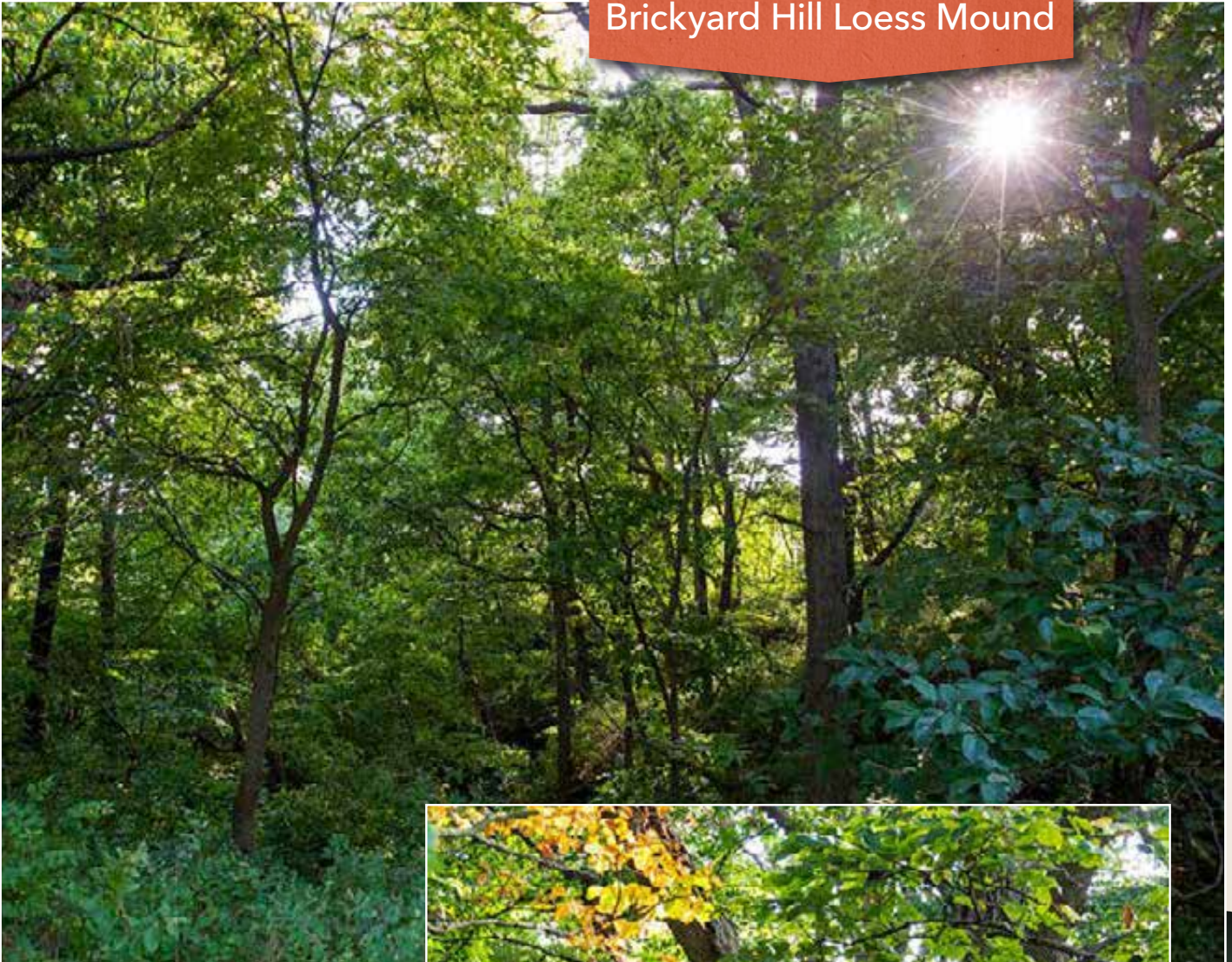
This 3-mile stretch of the Jacks Fork River is not to be missed. Forty native fish species ply the waters of this small Ozark stream, and don't forget binoculars for the bird-watching. With over 450 native plant species on the area, it is also home to several glacial relics, such as harebell, that were growing in the area 12,000 years ago. One of the most spectacular features of the area is Jam Up Cave with an arched opening 80 feet wide and 100 feet tall. Put in at Buck Hollow Access and float 4.5 miles to Jam Up, then another 1.5 miles to Rymers River Access, or keep on floating to Eminence.



Jack-in-the-pulpit



Brickyard Hill Loess Mound

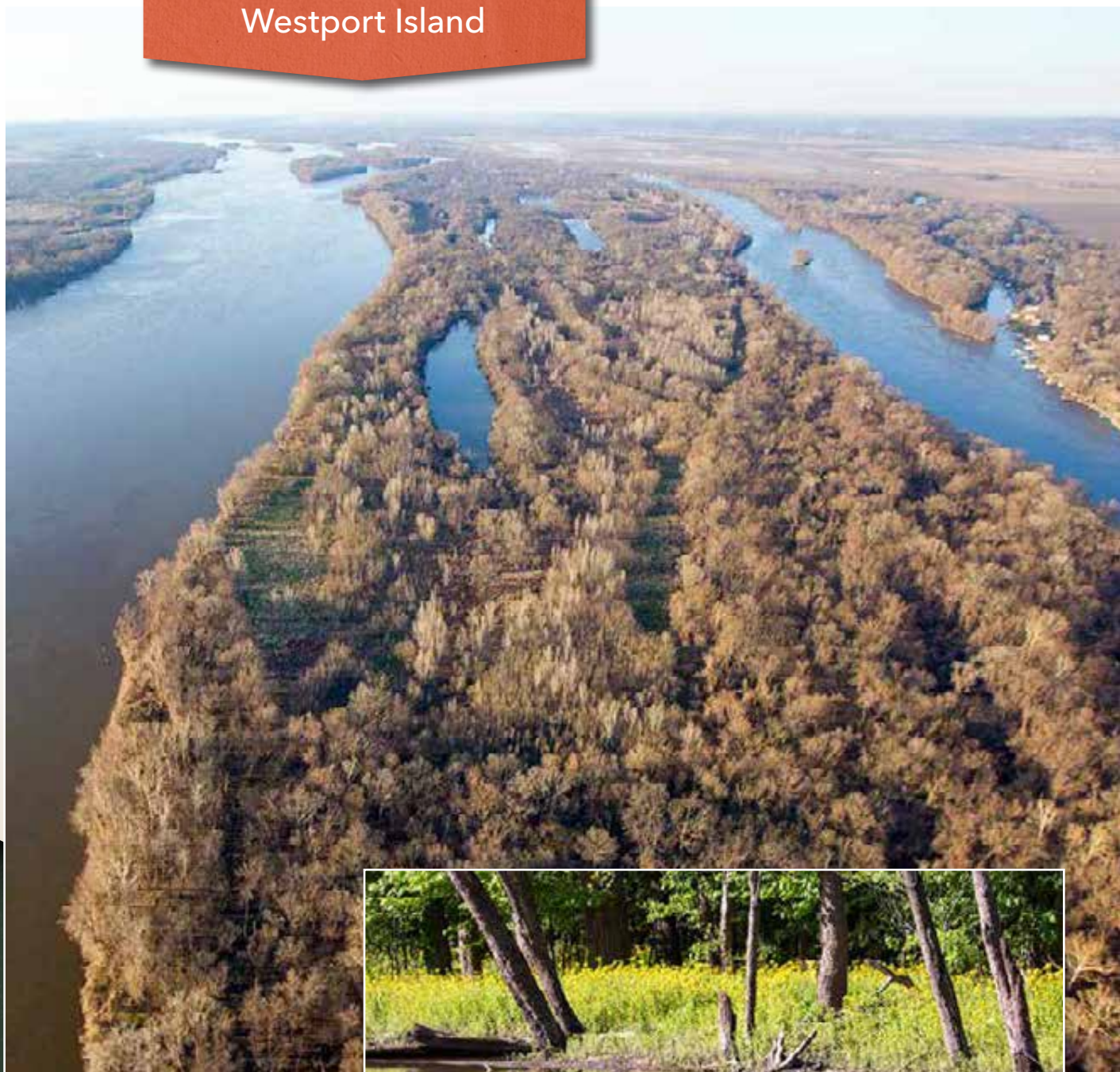


These hills and bluffs are formed of "loess," which is silt deposited by glacial meltwaters in vast mudflats thousands of years ago. Strong winds blew these silt particles into northwest Missouri where they accumulated up to 70 feet deep in places. Mostly heavily forested with very steep contour lines, the area has openings of prairie with ancient oaks along the edges, some dating prior to the Revolutionary War. Bring the tick spray and a map and compass. This would be beautiful in autumn or when the trees are bare to take in views of the Missouri River Valley along the western flank of the natural area.



Natural areas preserve something of great scientific and educational value to us and future generations.

Westport Island



You can visit these places and see rare plants, animals, and geologic features.

This 480-acre natural area sits in the middle of the Mississippi River upstream from St. Louis and is accessible only by boat. Put in at Hamburg Ferry Access and boat downstream about 4 miles. Part of the Upper Mississippi Conservation Area, Westport Island is covered in mature bottomland hardwood forest, with some of the canopy reaching 100 feet high. The area is dissected by numerous sloughs and marshy wetlands that are heavily used by waterfowl during migration periods.

Star School Hill Prairie

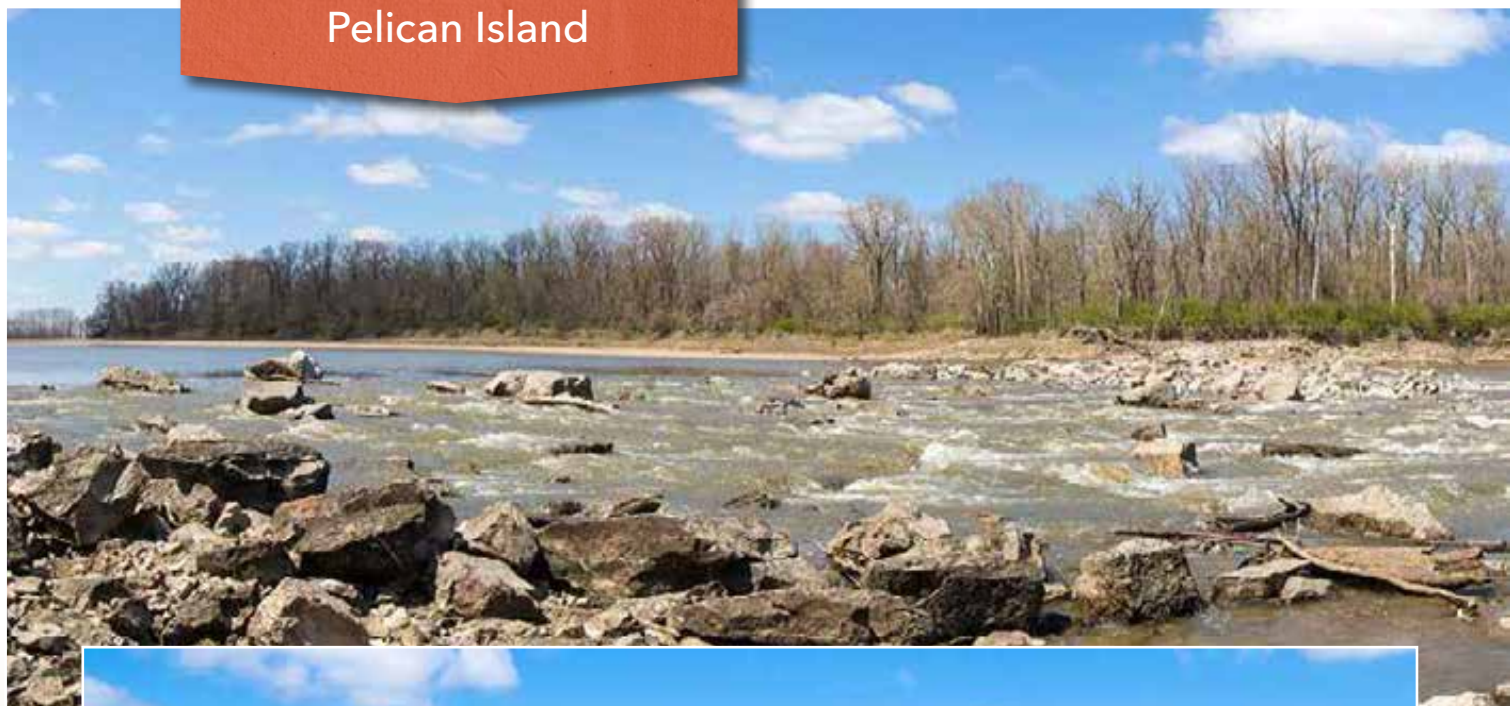


Star School Hill Prairie is another gem composed of steep loess bluffs in northwest Missouri. It is situated high above Interstate 29, 125 miles north of Kansas City, and has commanding views of the Missouri River valley to the west. Lewis and Clark stopped here on their expedition, and the mixed grass prairie remains to this day. Steep slopes, dry soil, and westerly exposure make this an arid ecosystem with plants that are more common to central Nebraska, such as soapweed yucca, hairy grama grass, nine-anther prairie clover, skeleton plant, locoweed, dotted blazing star, and large-flowered beardtongue.

Blue
vervain



Pelican Island

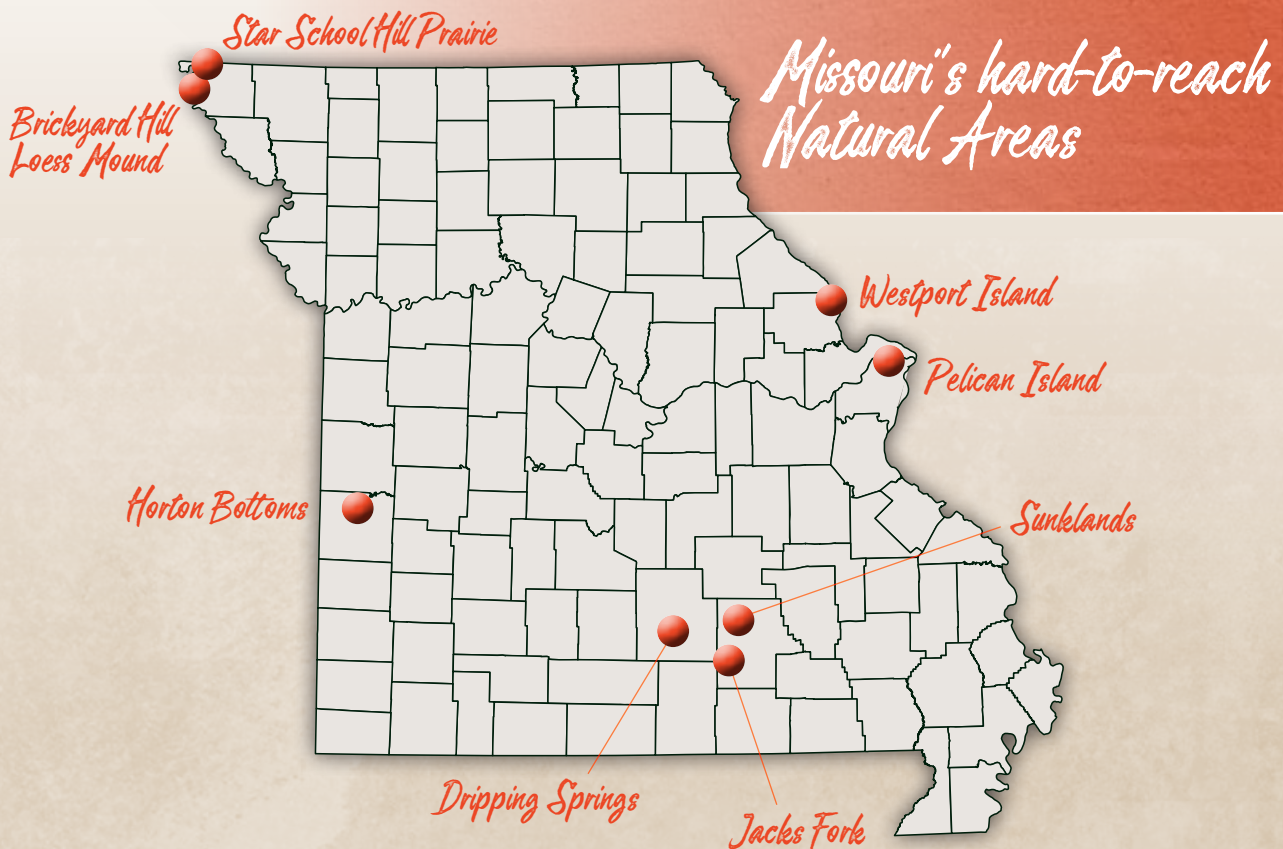


This 2,100-acre natural area is considered to be the best remaining example of a mature floodplain forest in Missouri. You can only get to it by boat, and I chose to circumnavigate it by putting in a kayak at Sioux Passage Park and paddling up the Car of Commerce Chute. The chute is an important area for big river fish, such as channel catfish and flathead catfish, and I spent a lot of time walking the sandbars looking for arrowheads and beach glass. Portage over the rocky stretch of rapids and head down the Missouri River to get back to the boat launch. I saw a tremendous number of birds and deer from the kayak.



You will find solitude in these places and experience nature on a different scale. This is as wild as it gets in the state of Missouri.

David Stonner has worked as a photographer with MDC for 11 years. He enjoys discovering little-known areas to experience the best that Missouri has to offer.



Get Outside

in OCTOBER

→ Ways to connect with nature



Dark-eyed junco

Visitors From the North

Juncos arrive from Canada. These are common backyard birds that will stay throughout the winter. Enjoy them at your feeder.



I'll Eat Just One More

Striped skunks are fattening up for winter. They forage most of the night on plants and animal foods, such as bee larvae, mice, moles, and shrews.

KANSAS CITY REGION

HALLOWEEN HAPPENING: HOWLoween Special Event

Friday, Oct. 19 • 6-9 p.m.

Anita B. Gorman Conservation Discovery Center
4750 Troost Ave., Kansas City, MO 64110

No registration required. Call 816-759-7300 for more information
All ages

HOWLoween is back and discovering nature's creepy creatures is just part of the nighttime fun. Take a hike on the Wild Side Walk to get up close with some of Missouri's nocturnal wildlife. Kids will have a howling good time exploring nature stations like Track or Treat, the Bone Yard, the Bat Cave, and much more. It will be a howling fun, unforgettable event for the entire family.

Natural Events to See This Month

Here's what's going on in the natural world.



Hellbender
breeding
peaks



Brown bats
gather
at cave
entrances
to mate and
hibernate



Lady
beetles
congregate
on sunny
sides of
houses



Find more events
in your area at
mdc.mo.gov/events

Get a Peek at Fall Colors

Missouri's fall colors peak in mid-October. You can enjoy this natural wonder almost anywhere, but to get a spectacular view, check out the forested bluffs along a riverway, drive along country back roads, or just take a hike. For more suggestions, visit short.mdc.mo.gov/Z4E.

SHARE THE HARVEST



Busy Beavers

Keep an eye out for **beavers** along streams, rivers, marshes, and small lakes. They are active during the day, gathering food for winter.



Donated deer meat goes to local food banks and food pantries to help feed hungry Missourians.

Thousands of Missouri deer hunters donated 289,292 pounds of venison to the state's **Share the Harvest** program in 2017.

Since 1992, **Share the Harvest** has provided nearly 4 million pounds of lean, healthy venison.

For more information visit
short.mdc.mo.gov/Zoz



CENTRAL REGION

Primitive Skills

Saturday • Oct. 20 • 10 a.m.-3 p.m.
Runge Conservation Nature Center,
330 Commerce Dr.,
Jefferson City, MO 65109
No registration required.
Call 573-526-5544 for more information.
All ages

Take a step back in time and explore our heritage by practicing your primitive skills. Try your hand at **atlatl**, tomahawk throwing, archery, natural dyes, cordage, and flintknapping!

Places to Go

KANSAS CITY REGION

Settle's Ford Conservation Area

Wetlands replace battlefields in former Civil War hotbed

by Larry Archer

✱ **The bluffs at Settle's Ford Conservation Area (CA)** — once used by Union troops to spot approaching Confederates — now offer views of incoming waterfowl taking advantage of the area's wetlands.

Located on 7,363 acres in southern Cass and northern Bates counties, Settle's Ford CA includes a mix of South Grand River bottomlands and upland grasslands. The designated hiking trail, which runs almost 5 miles on the area's western side, takes hikers through a variety of landscapes, according to Wildlife Biologist Brian Bokern, Settle's Ford CA manager.

"You get a little bit of everything, from bottomland hardwoods to crops to old fields and prairies," Bokern said.

Whether visitors get a good look at the area's 14 wetland management pools, and the waterfowl that use them in the fall, depends on if the weather has been cooperative, he said.

"Our wetlands are opportunistic, so I can't pump 'em. They're dependent on Mother Nature," he said. "If it's a dry year, we don't have much. People come out here and they're like, 'Where is the water I saw last spring? It says on the map it's supposed to be here, and it looks like it's a dry field.'"



"Dayton, which is a mile north of our headquarters, was the hub for the Missouri Guard at the time, which is why they burned it down. This whole area was kind of a hotbed during the Civil War."

—Settle's Ford CA Manager Brian Bokern

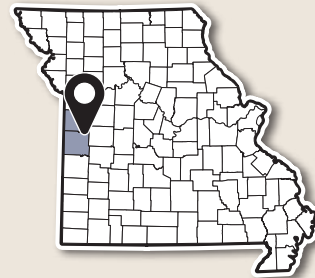
**WHAT
TO
LOOK
FOR
WHEN
YOU
VISIT**



Red fox



Settle's Ford CA, with its series of opportunistic wetlands, offers a great opportunity for fall waterfowl viewing.



SETTLE'S FORD CONSERVATION AREA

consists of 7,363 acres in Bates and Cass counties. From Creighton, take Route B west 4 miles, then Index Road south 1 mile to the area's main entrance.

N38° 28' 28.92" | W94° 8' 29.76"

short.mdc.mo.gov/ZcJ 816-862-6488

WHAT TO DO WHEN YOU VISIT



Bird-Watching Settle's Ford CA is included on the Great Missouri Birding Trail website, short.mdc.mo.gov/Zc4, where you can find the area's eBird list.



Fishing Black bass, catfish, crappie, and sunfish



Hiking One designated hiking trail approximately 4-5 miles long. Other areas accessible by levees.



Hunting Deer and Turkey Regulations are subject to annual changes, so check the 2018 *Spring Turkey* or *Fall Deer and Turkey* booklets for current regulations. Also **quail**, **dove**, **rabbit**, and **squirrel**.



Trapping Special use permit required.



Waterfowl Hunting Open hunting. Waterfowl regulations are subject to annual change, so check the 2018 *Waterfowl Hunting Digest* for current regulations.



Prairie kingsnake



Leopard frog



Northern harrier

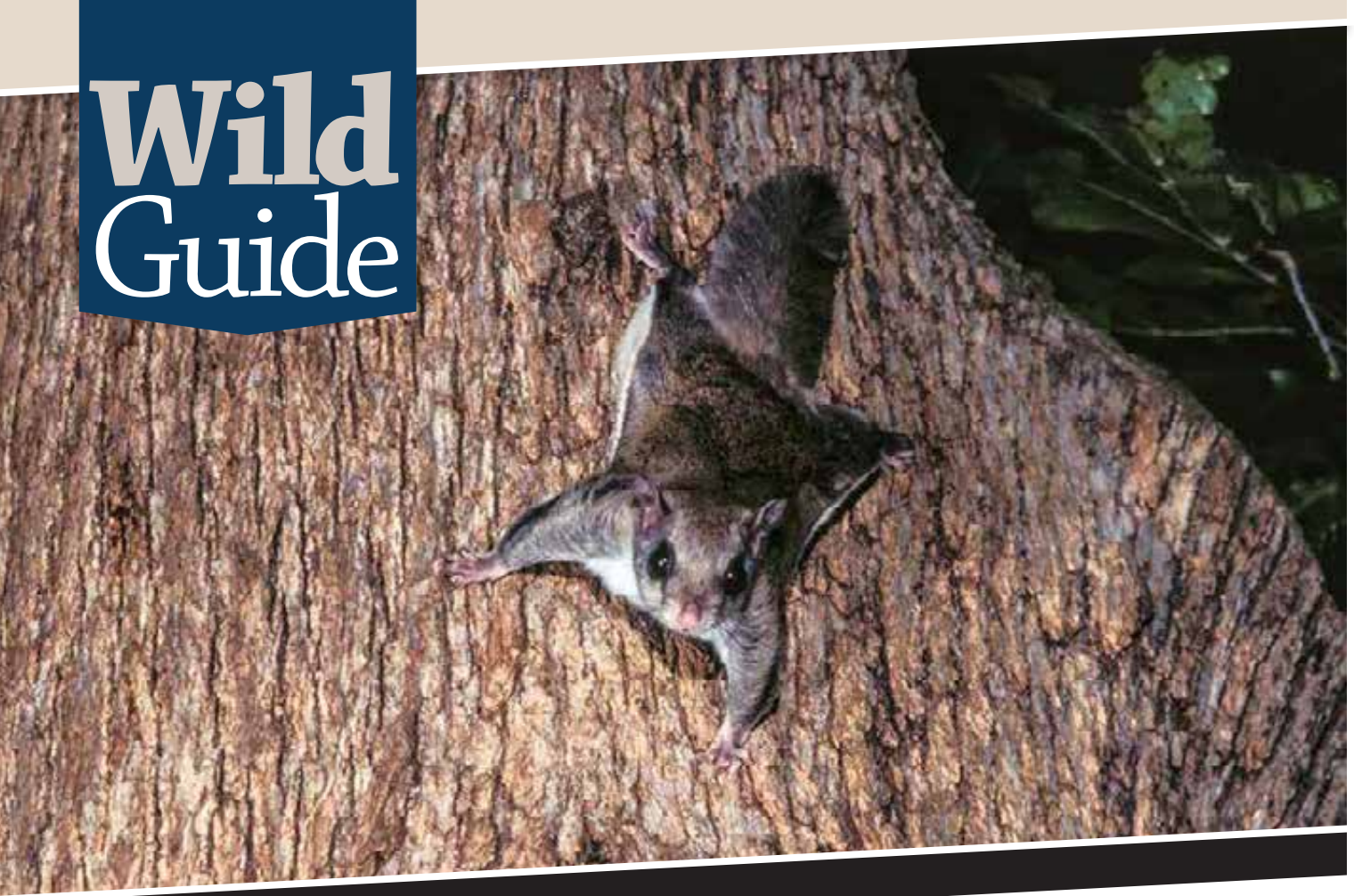


American coot



Great egret

Wild Guide



Flying Squirrel

Glaucomys volans

Status

Common in forested areas, especially near water

Size

Length: 8-11¼ inches
Weight: 1½-5 ounces

Distribution

Statewide



Did You Know?

Flying squirrels live in holes in trees, usually leftover woodpecker holes. They can squeeze into a hole about the size of a quarter, so they could even live in a wren house. Many people enjoy their presence so much they put out special suet feeders and "birdhouses" to attract them.

This pint-sized rodent has quite an unusual feature — a loose flap of skin between its front and back legs that, when stretched out, mimics a kite and enables "flight." The flying squirrel is chipmunk-like in size with many features like a mouse, including large ears, an upturned nose, and large dark eyes. Its soft, silky fur is mostly gray on top and white on the bottom. The males and females are indistinguishable.



LIFE CYCLE

These squirrels take the night shift, running the same trees that their larger relatives, gray and fox squirrels, occupy by day. Flying squirrels have four to six babies each spring, with a second litter sometimes born in late summer. The babies are tiny at birth — weighing as much as six paper clips — but they grow fast and live about five to six years.



FOODS

Flying squirrels eat much like other squirrels, enjoying nuts, fruits, berries, buds, tree bark, and mushrooms. Unlike other squirrels, they also eat moths and beetles.



ECOSYSTEM CONNECTIONS

Flying squirrels play an important role in healthy forests. Their nut-burying helps continue the forest, while feeding on buds help stimulate tree growth. In addition, their taste for tree-burrowing insects helps control pests naturally.

JIM RATHER

Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖

FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:
May 26, 2018–Feb. 28, 2019

Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2018

Nongame Fish Giggling

Streams and Impounded Waters,
sunrise to midnight:
Sept. 15, 2018–Jan. 31, 2019

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2018

Trout Parks

Catch-and-Keep:
March 1–Oct. 31, 2018

Catch-and-Release:
Nov. 9, 2018–Feb. 11, 2019

TRAPPING

Beaver, Nutria

Nov. 15, 2018–March 31, 2019

Other Furbearers

Nov. 15, 2018–Jan. 31, 2019

Otters, Muskrats

Nov. 15, 2018–Feb. 20, 2019

Rabbits

Nov. 15, 2018–Jan. 31, 2019

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at short.mdc.mo.gov/Zib. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at short.mdc.mo.gov/ZZf.



Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zi2.

HUNTING

Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2018

Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Crow

Nov. 1, 2018–March 3, 2019

Deer

Archery:
Sept. 15–Nov. 9, 2018
Nov. 21, 2018–Jan. 15, 2019

Firearms:

- ▶ Early Youth Portion (ages 6–15):
Oct. 27–28, 2018
- ▶ November Portion:
Nov. 10–20, 2018
- ▶ Late Youth Portion (ages 6–15):
Nov. 23–25, 2018
- ▶ Antlerless Portion (open areas only):
Nov. 30–Dec. 2, 2018
- ▶ Alternative Methods Portion:
Dec. 22, 2018–Jan. 1, 2019

Dove

Sept. 1–Nov. 29, 2018

Groundhog (woodchuck)

May 7–Dec. 15, 2018

Other Furbearers

Nov. 15, 2018–Jan. 31, 2019

Pheasant

Youth (ages 6–15):
Oct. 27–Oct. 28, 2018

Regular:
Nov. 1, 2018–Jan. 15, 2019

Quail

Youth (ages 6–15):
Oct. 27–Oct. 28, 2018

Regular:
Nov. 1, 2018–Jan. 15, 2019

Rabbit

Oct. 1, 2018–Feb. 15, 2019

Sora, Virginia Rails

Sept. 1–Nov. 9, 2018

Squirrel

May 26, 2018–Feb. 15, 2019

Turkey

Archery:
Sept. 15–Nov. 9, 2018
Nov. 21, 2018–Jan. 15, 2019

Firearms:

- ▶ Fall: Oct. 1–31, 2018

Waterfowl

See the Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2018

Woodcock

Oct. 15–Nov. 28, 2018



ILLUSTRATION: MARK RATHIEL



**Follow us
on Instagram**

@moconservation

Experience the natural wonder of autumn in Missouri when green leaves turn vibrant red, brilliant yellow, and bright orange. Take a stroll down tree-lined streets, a hike in your nearest conservation area, or a drive down a scenic highway and discover the beauty.

📷 by **Dan Zarlenga**

Subscribe online | mdc.mo.gov/conmag | Free to Missouri households